ABSTRACT

A circuit and method are disclosed for protecting an integrated circuit (IC) against transient overvoltages. The circuit comprises a balun transformer and a normally-off transistor. The balun input terminals are connected to an unbalanced circuit, while the balun output terminals are connected to a balanced circuit. The transistor is connected between the balun output terminals and has a gate connected to ground or to some other reference voltage. When an overvoltage transient signal reaches the balun input terminals, the balun transformer converts the transient to a balanced transient signal on the two branches of the balanced circuit. During overvoltage conditions, one balun output terminal will have a voltage which swings low enough that the protection transistor turns on, effectively shorting the overvoltage spike and protecting any upstream (or downstream) IC components from damage. When the transient is over, the transistor returns to the "off" state.